INTEGRABLE DC/AC VOLTAGE TRANSFORMER/ISOLATOR AND ULTRA-LARGE-SCALE CIRCUIT INCORPORATING THE SAME

ABSTRACT OF THE DISCLOSURE

An electronic device, a method of manufacturing an electronic device and an integrated circuit that employs at least one such electronic device to couple first and second circuits together in an isolated fashion. In one embodiment, the electronic device includes: (1) a first conductive channel, (2) a second conductive channel and (3) an isolation layer formed from and over said first conductive channel, interposing said first conductive channel and said second conductive channel and configured both to isolate said second conductive channel electrically from said first conductive channel and transfer momentum between charge carriers in said first conductive channel and charge carriers in said second conductive channel.

(1) forming a first conductive channel, (2) forming an isolation layer from and over said first conductive channel and (3) forming a second conductive channel proximate said isolation layer, said isolation layer configured both to isolate said second conductive channel electrically from said first conductive channel and transfer momentum between charge carriers in said first conductive channel and charge carriers in said second conductive channel.

(1) a substrate, (2) a first circuit supported by said substrate and configured to carry a current, (3) a second circuit and (4) an electronic device, including: (4a) a first conductive channel supported by said substrate and coupled to said first circuit, (4b) a second conductive channel supported by said substrate and coupled to said second circuit and (4c) an isolation layer formed from and over said first conductive channel, interposing said first conductive channel and said second conductive channel and configured both to isolate said second conductive channel electrically from said first conductive channel and transfer momentum between charge carriers in said first conductive channel and charge carriers in said second conductive channel.